

## Report on Advanced Life Support Activities at Kennedy Space Center

Raymond. M. Wheeler  
NASA Biological Sciences Office  
Kennedy Space Center, FL 32899 USA  
[Raymond.m.Wheeler@nasa.gov](mailto:Raymond.m.Wheeler@nasa.gov)

Plant studies at Kennedy Space Center last year focused on selecting cultivars of lettuce, tomato, and pepper for further testing as crops for near-term space flight applications. Other testing continued with lettuce, onion, and radish plants grown at different combinations of light (PPF), temperature, and CO<sub>2</sub> concentration. In addition, comparisons of mixed versus monoculture approaches for vegetable production were studied. Water processing testing focused on the development and testing of a rotating membrane bioreactor to increase oxygen diffusion levels for reducing total organic carbon levels and promoting nitrification. Other testing continued to study composting testing for food wastes (NRA grant) and the use of supplemental green light with red/blue LED lighting systems for plant production (NRC fellowship).